

Note-taking Worksheet

Clues to Earth's Past

Section 1 Fossils

- A. _____ study fossils and reconstruct the appearance of animals.
- B. _____—remains, imprints, or traces of prehistoric organisms
1. Fossils can form if the organism is quickly _____ by sediments.
 2. Organisms with _____ are more likely to become fossils than organisms with soft parts.
- C. Types of _____
1. Fossils in which spaces inside are filled with minerals from groundwater are called _____ remains.
 2. _____ results when a thin film or carbon residue forms a silhouette of the original organism; carbonized plant material becomes _____.
 3. _____—cavity in rock left when the hard parts of an organism decay
 4. If sediments wash into a mold, they can form a _____ of the original organism.
 5. Occasionally _____ remains are preserved in a material such as amber, ice, or tar.
 6. _____—evidence of an organism's activities
 - a. Can be _____ left in mud or sand that became stone
 - b. Can be trails or _____ made by worms and other animals
- D. _____—abundant, geographically widespread organisms that existed for relatively short periods of time
- E. Fossils can reveal information about past land forms and _____.

Section 2 Relative Ages of Rocks

- A. Principle of _____—process of reading undisturbed rock layers
1. _____ rocks in the bottom layer
 2. _____ rocks in the top layers
- B. How old something is in comparison with something else is its _____.
1. The age of _____ rocks can be determined by examining layer sequences.
 2. The age of disturbed rocks may have to be determined by _____ or other clues.

Note-taking Worksheet (continued)

C. _____—gaps in rock layers

1. _____ unconformity—rock layers are tilted, and younger sediment layers are deposited horizontally on top of the eroded and tilted layers.
2. A layer of horizontal rock once exposed and eroded before younger rocks formed over it is called a _____.
3. _____—sedimentary rock forms over eroded metamorphic or igneous rock.

D. The same rock layers can be found in different locations; fossils can be used to _____ those rock layers.

Section 3 Absolute Ages of Rocks

A. _____—age, in years, of a rock or other object; determined by properties of atoms

B. Unstable isotopes break down into other isotopes and particles in the process of _____ decay.

1. _____—an isotope's neutron breaks down into a proton and an electron with the electron leaving the atom as a beta particle; a new element forms due to proton gain.
2. _____—an isotope gives off two protons and two neutrons as an alpha particle; a new element forms.
3. The time it takes for half the atoms in an isotope to decay is the isotope's _____.

C. Calculating the absolute age of a rock using the ratio of parent isotope to daughter product and the half-life of the parent is called **radiometric** _____.

1. _____ dating is used to date ancient rocks millions of years old.
2. _____ dating is used to date bones, wood, and charcoal up to 75,000 years old.
3. Earth is estimated to be about 4.5 billion years old; the oldest known rocks are about _____ years old.

D. _____—Earth processes occurring today are similar to those that occurred in the past.

Chapter Review (continued)

Part B. Concept Review

Directions: Complete the chart to describe different types of fossils.

Type of fossil	Description
1. Permineralized remains	
2. Carbonaceous film	
3. Mold	
4. Cast	
5. Trace fossils	
6. Index fossils	

Directions: Answer the questions on the lines provided.

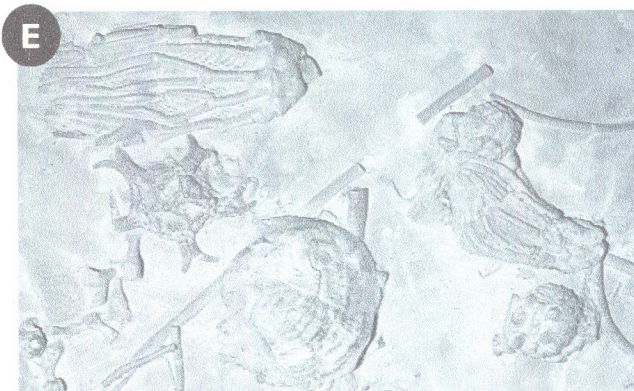
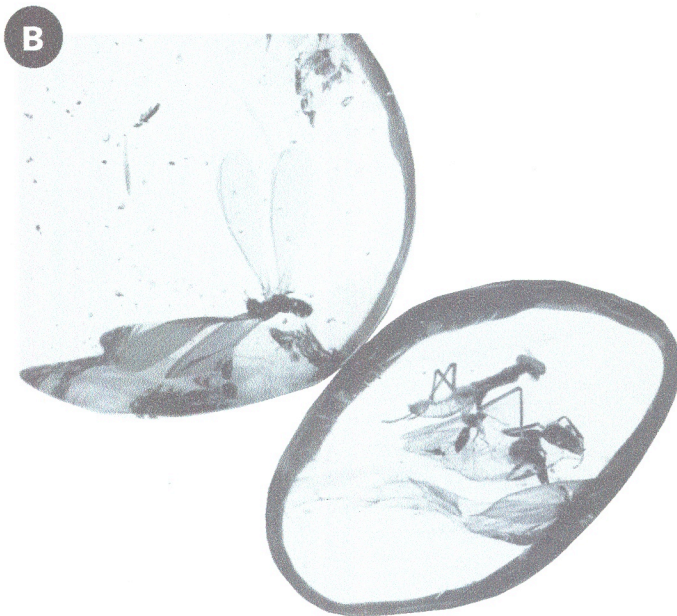
7. Explain what the concept of uniformitarianism means.

8. How do geologists use fossils to determine rock ages? What are these fossils called?

9. Explain how a dead organism may become a fossil.

Use with Chapter 21
Section 21.4

Fossils



Fossils

Use with Chapter 21
Section 21.4

1. What are fossils?

2. Which fossil(s) has original preservation?

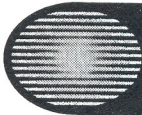
3. Which fossil(s) has altered hard parts?

4. Which fossil(s) is a trace fossil? How do you think it was made?

5. Identify the types of fossils in C and describe how they formed.

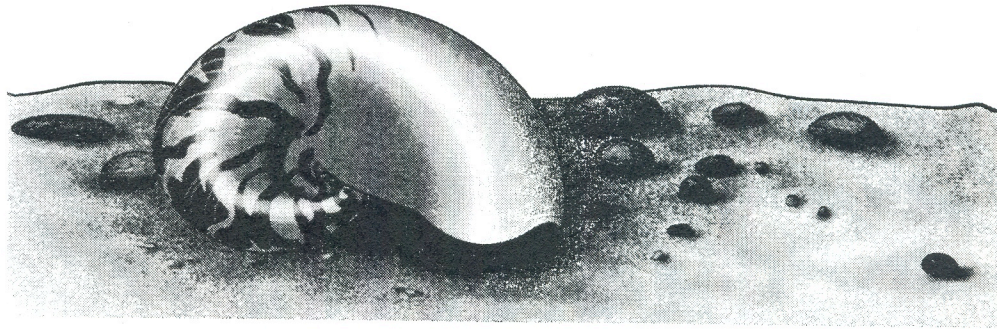
6. What is permineralization? Which fossil(s) formed by permineralization?

7. What is amber? Which fossil is preserved in amber?

**Directed Reading for
Content Mastery****Section 1 ■ Fossils**

Directions: Complete the following sequencing activity.

1. Put the events below in the correct sequence on the lines provided.



- _____ a. The sediment is squeezed and cemented together into rock.
_____ b. The seashell becomes buried in sediment.
_____ c. Other sediments fill the hollow place and harden into rock.
_____ d. A seashell falls into the mud.
_____ e. Someone finds the fossil of a seashell buried in sediment and rock.
_____ f. Holes in the rock let water and air reach the seashell and dissolve it, leaving behind a hollow place in the rock.

Directions: Match the terms in Column I with their descriptions in Column II. Write the letter of the correct phrase in the blank at the left.

Column I

- _____ 2. fossil
_____ 3. cast
_____ 4. mold
_____ 5. index fossil
_____ 6. carbonaceous film
_____ 7. petrified remains

Column II

- a. fossil from a species that existed on Earth for a short period of time
b. fossil made from a thin film of carbon atoms and molecules
c. remains imprint, or trace of a once-living organism
d. hard and rocklike fossil
e. cavity left in rock by a decayed organism
f. produced when a cavity is filled in with solid matter